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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/633,846
Filing Date: August 04, 2003
Appellant(s): RASTEGAR ET AL.

Thomas Spinelli
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed on 06/23/2008 appealing from the Office action mailed 09/19/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,198,764	Schuermann et al.	03-2001
6,192,070	Poon et al.	02-2001
FCC document, FCC 84-169, 98F.C.C. 2d		04-1984
380, Gen Docket No. 81-413,		

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Schuermann et al. (US 6,198,764).

- With regard claim 1, Schuermann et al. discloses a method for the transfer of a digital data signal from a transmitter to a receiver comprising:

(a) transmitting first data (Fig.1 element 10, data source) from the transmitter according to at least one of a first timing (Fig.1 element 12, PN generator output, B – PN-code sequence (Fig.2 element B), and column 3 lines 1-6), modulation, and frequency;

(b) appending the first data (Fig.1 element C, spreaded data according to the PN code sequence), prior to transmission (Fig.1 element 24), with information (Fig.1 element 18, FSK modulator output) regarding at least one of a second timing, modulation (Fig.1 element 18, FSK modulator), and frequency for a subsequent transmission (column 2 lines 31-48) and column 3 lines 11-16); and

(c) transmitting second data from the transmitter (Fig.1) according to the information (column 2 lines 22-48, where the BPSK modulation output, D, is transmitted according to the information from FSK output)

- With regard claim 2, Schuermann et al. further discloses wherein the information comprises a change in at least one of the first timing, modulation, and frequency (Fig.1 elements 12, 16 and 18, column 3 lines 11-16, Fig.2 element D, RF signal, f_1 , f_2 and f_1).
- With regard claim 3, Schuermann et al. further discloses wherein the change comprises a random generation (Fig.1 element 12) of the at least one of the first timing (Fig.1 elements 12, 16 and 18, Fig.2 elements A-D, and column 3 lines 11-30), modulation, and frequency.
- With regard claim 4, Schuermann et al. further discloses wherein the information comprises a deviation in at least one of the first timing, modulation, and frequency (Fig.1 elements 12, 16 and 18, Fig.2 elements A-D, and column 3 lines 11-30, where as PN sequence changed the synchronization information at output of FSK is changed).

- With regard claim 5, Schuermann et al. further discloses wherein the information comprises at least one of the second timing, modulation, and frequency (Fig.1 elements 12, 16 and 18, and column 2 lines 31-35 and column 3 lines 11-30, where the appended information to the first data is the synchronization information generated by elements 12).
- With regard claim 6, Schuermann et al. further discloses repeating steps (b) and (c) for subsequent data sets. (Fig.1 elements 12, 16 and 18, column 3 lines 11-30, and Fig.1 and Fig.2 elements A-D, since the PN code is a continuous sequence, the second data and subsequent data set along with the new generated synchronization information is transmitted to the receiver.)
- With regard claim 7, which is a mean plus function claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.
- With regard claim 8, Schuermann et al. discloses a receiver comprising:
 - means for receiving first data from the transmitter at least one of a first timing, modulation (Fig.3 and column 3 lines 45-55), and frequency, the first data containing information regarding at least one of a second timing, modulation, and frequency for a subsequent transmission (Fig.2 &3 element E and column 3 line 56);
 - means for reading the information in the first data (column 4 lines 1-7, where the information is the synchronization information, PN-code

sequence); and

means for receiving the second data from the transmitter according to the information (Fig.2 and 3 and column 3 lines 45-55, since the PN code is a continuous sequence, the second data along with the new generated synchronization information is transmitted and been received by the receiver.)

- With regard claim 9, which is a system mean plus function claim related to claim 7, means plus function of a transmitter, and claim 8, means plus function of a receiver, all limitation is contained in claim s 7 and 8. The explanation of all the limitation is already addressed in the above paragraph.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuermann et al. (US 6,198,764) in view of Poon et al. (US 6,192,070).

- With regard claims 10 and 11, Schuermann et al. discloses all of the subject matter as described above except for the method written by a software program embodied in a computer-readable medium.

However, Poon et al. teaches that the method and apparatus for a universal modem with different modulation/demodulation type information can be implemented in software stored in a computer-readable medium (column 4 lines 15-39). The computer-readable medium is an electronic, magnetic, optical, or other physical device or means that can be contain or store a computer program for use by or in connection with a computer-related system or method. One skilled in the art would have clearly recognized that the method of "Schuermann et al." would have been implemented in a software. The implemented software would perform same function of the hardware for less expense, adaptability, and flexibility. Therefore, it would have been obvious to have used the software in "(column 4 lines 15-39)" as taught by Poon et al. in order to reduce cost and improve the adaptability and flexibility of the communication system.

(10) Response to Argument

Claim Rejections under 35 USC§ 102(e)

Claims 1 and 7-11

1. Applicant's argument –

“ (a) In contrast, the claimed invention transmits the actual data, but the data is transmitted in bits and pieces at times determined by a pseudo random number generator, which the receiver that has the code (called the seed) can figure out the time sequence and use only the signal bits and pieces (pulse like) that are received at those times to reconstruct the data sequence. As discussed in the specification, this is good for hiding the signal in the environmental noise,

thereby it would be also good for preventing anyone from finding the transmitter (in the field, for example).

(b) The prior art cited by the Examiner discloses a method that generates the random noise and the pseudo noise (PN) code sequence is used to clean, which means that it would be very easy to find the transmitter since it is sending a continuous signal. In addition, in the claimed invention, since only randomly distributed pulses are sent, it is very difficult for anyone to zero in on and locate the transmitter since it is hard to tune to a randomly timed sequence of pulses.

(c) With regard to the rejection of claims 1-9 under 35 U.S.C. § 102(b), a method, transmitter, receiver and system for low-delectability communication having the features discussed above and as recited in independent claims 1 and 7-9, is nowhere disclosed in Schuermann.” as recited in page 7 of the Appeal Brief, dated 06/23/2008.

Examiner's Response –

A. In response to applicant's arguments (a) and (b) that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. (a) - page 7, lines 16-22 of the Appeal Brief, (b) - page 7, lines 23-28 of the Appeal Brief as recited in the above paragraph) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

B. With regard the arguments (b) and (c), Examiner respectfully disagrees with appellant's argument that the PN code sequence PN code sequence used for spread spectrum receiver as taught by Schuermann is not a low-detectability communication and the transmitter is very easy to find since it is sending a continuous signal.

Examiner considers that any system having data being spreaded by a PN spreading code and later, modulated with BPSK or FSK scheme, then transmitted via air is a low-delectability communication between transmitter and receiver since the received signal at receiving side will be the transmitted signal plus white noise (transmitted via air). Schuermann discloses such a system (refers to Fig.1 -3). Examiner cites FCC document, FCC 84-169, 98F.C.C. 2d 380, Gen Docket No. 81-413, released on April 26, 1984, to support Examiner's view as addressed in the above paragraph. The cited FCC document, page 1, item 2, under **INTRODUCTION AND BACKGROUND** section, states "Spread spectrum is a term applied to communications systems that spread radio frequency energy over a wide bandwidth by means of an auxiliary spreading code. The spreading of the bandwidth can be accomplished in many different ways and the systems are usually classified by the type of spreading technique which they employ. They are commonly referred to as: direct sequence (or pseudonoise), frequency hopping, time hopping, pulsed FM (or chirp) and hybrid systems. (These terms are defined in Section 15.4 of the proposed rules in Appendix B.) *The spreading or dilution of the energy in spread spectrum systems*

*over a wide bandwidth results in several possible advantages: short range interference-free overlays on other emissions, resistance to interference from other emissions, **and low detectability**.* While we do not anticipate that spread spectrum will replace other types of modulations, the unique characteristics of spread spectrum offer important options for the communications system designer.” The FCC document is attached for reference.

C. In response to applicant's arguments, the recitation “for low-detectability communication between a transmitter and receiver” in claims 1 and 7-11 has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Claims 2-6

1. Applicant's argument – “Claims 2-6 being dependent upon claim 1 are thus at least allowable therewith.” as recited in page 8 of the Appeal Brief, dated 06/23/2008.

Examiner's Response – The explanation has been addressed in the above paragraph with respect to Claim 1 and 7-11 of the Examiner's response.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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